



PATENT ABSTRACTS OF JAPAN

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F01N 3/24**B01D 53/86****B01J 27/232****F01N 3/08****F01N 3/20****F01N 3/28****F02D 41/04****F02D 41/14**(21) Application number: **11080260**(71) Applicant: **YANMAR DIESEL ENGINE CO LTD**(22) Date of filing: **08.03.99**(72) Inventor: **NISHIMOTO KYOTARO****(54) EXHAUST EMISSION CONTROL METHOD IN
INTERNAL COMBUSTION ENGINE****(57) Abstract:**

PROBLEM TO BE SOLVED: To promote exhaust purification by comprehending the amount of nitrogen oxides occluded based on the change in oxygen concentration of the exhaust gas detected by oxygen sensors disposed upstream and downstream of nitrogen oxide occlusion reduction catalyst, so as to appropriately obtain the occlusion amount of nitrogen oxides in the catalyst and by selecting the air excess ratio.

SOLUTION: A nitrogen oxides occlusion reducing catalyst 100 carries a first component 6 of carbonate $(M)_nCO_3$ and a second component 7 of a noble metal such as platinum on a heat resistance base material 5. When an excess air ratio is in a lean state, oxygen ion and NO_x react with each to form NO_2 . Then the NO_2 reacts with carbonates, which is adsorbed to the catalyst 100 to form nitrates. When the nitrates reaches a saturation point, the NO_x is desorbed and decomposed after reacting with unburned HC and CO. The change in the oxygen concentration is detected by oxygen sensors at the upstream and downstream sides.

When an estimated ratio of NO_x occlusion reaches a prescribed value, the air excess ratio is selected from lean to rich state. It is also estimated whether or not the nitrates have been completely desorbed from the catalyst 100, the air excess ratio is selected from rich to lean state.

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